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(54) Cosmetic, pharmaceutical or nutraceutical formulations containing antioxidant molecules and polymeric materials

(57) The knowledge of the damage from chronic exposure to exogenous factors, such as sunlight and oxidizing agents is increasing, thanks to the information campaigns. The protective action of these factors must pay attention to the issues of toxicity resulting from topical formulations which should provide specific requirements, including stability and safety.

In this regards, particular attention is focused on sunscreens, especially on the organic ones, which can show photostability and toxicity concerns. The importance of the filters toxicity concerns has been greatly exacerbated in recent years to the point that the producers of raw materials and technical formulators have implemented various strategies in order to develop stable and safe sunscreens. In this context, the use of "SPF boosters", raw materials are able to increase the SPF of a formulation of the sun exploiting different mechanisms of action, is an interesting approach in the development of solar products.

Considerable interest has also led to the preparation of formulations for the protection from oxidizing agents (ozone, hypochlorite and environmental pollutants) responsible for a pathological condition, such as oxidative stress, which can damage different cell structures. Oxidative stress, indeed, involves a degradation of cells and tissues with a loose in their efficiency. The premature aging of the skin is one of the most popular signs.

This idea is based on the use of polyvinylpyrrolidone (PVP) functionalized with antioxidant molecules such as rosmarinic acid, ellagic acid, epigallocatechin gallate, resveratrol, hydroxytyrosol, to be used as boosters of SPF and / or protective agents for skin and hair from exogenous factors such as harmful UV radiation, ozone and chemical oxidants. These antioxidant-polymer conjugates represent a breakthrough in the world of raw and semi-processed materials in the cosmetic, pharmaceutical and nutraceutical markets.

At present, polymeric and antioxidant compounds, such as polyphenols, are individually used in cosmetic, pharmaceutical and nutraceutical formulations, but no examples of antioxidant-polymer conjugates are reported.

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EUROPEAN SEARCH REPORT

Application Number
EP 12 16 0474

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	28 February 2013	Ruckebusch, Virginie

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